

AMENDMENTS TO THE SPECIFICATION

On page 3, starting on line 34, please replace the following paragraph with the paragraph listed below:

Despite its superiority to other exocrine parameters, the traditional Elastase 1-ELISA methods ~~fails~~ fail in too many cases to identify pancreas elastase, even though it is present in substantial concentrations.

On page 3, starting on line 27 through page 5, line 1, please replace the following paragraph with the paragraph listed below:

Partial elements are ideally obtained by means of peptide synthesis, with the amino-acid sequence being derived beforehand from the overall sequence by using structural analysis methods or alternatively being identified according to protein sequencing. Although the peptides alone can trigger antibody induction, it proved appropriate in terms of the invention to link these peptides to common carrier substances such as haemocyanine. It is possible with the peptides in the invention to produce monoclonal and polyclonal antibodies.

For the production of the polyclonal anti-peptide antibodies in the invention, animals such as rabbits, guinea pigs, goats, chickens or fish are immunised with the peptides in the familiar way. For the production of monoclonal antibodies, the peptides are used in the familiar way for the induction of specific B-cells, which after fusion with myeloma cells produce hybridoma cells, which then according to familiar cloning procedures are cultivated in cell lines which secrete specific monoclonal antibodies. The mono- or polyclonal antibodies in the invention react only with the used specific epitopes or with well-known elastase iso-enzymes.

It was shown that antibodies against the peptides A-V-K-E-G-P-E-Q-V-I-P-I-N, Y-T-N-G-P-L-P-D-K-L-Q-Q-A-R, R-S-G-C-N-G-D-S-G-G-P-L-N, G-P-L-N-C-P-T-E-D-G-G-W-Q, G-T-E-A-G-R-N-S-W-P-S-Q-I, H-N-L-S-Q-N-D-G-T-E-Q-Y-V, W-G-K-T-K-T-N-G-Q-L-A, V-S-S-R-G-C-N-V-S-R-K-P-T, G-G-E-E-A-R-P-N-S-W-P-W-Q, S-S-S-R-T-Y-R-V-G-L-G-R-H-N, K-D-W-N-S-N-Q-I-S-K-G-N-D, G-P-L-N-C-Q-A-S-D-G-R-W, G-A-L-P-D-D-L-K-Q-G-R-L, S-L-Q-Y-E-K-S-G-S-F-Y, F-G-C-N-T-R-R-K-P-T-V-F-T react highly specifically with the iso-forms of the pancreas elastase and do not react unspecifically with other stool components.

Another subject of the invention is the use of the elastase antibodies in the invention for the identification and quantification of all ~~at~~ known elastase iso-enzymes in body fluids and in stool. The invention is therefore also relevant in terms of identification systems, particularly an immune-chemical identification system to establish the functionality of the pancreas as an aid to the recognition of functional disorders of this organ. For this purpose the specific antibodies can be connected to ~~a an~~ suitable carrier adsorptively or chemically using familiar coupling procedures. Membranes or particles are suitable carriers. The Sandwich-ELISA of the invention can be used with cross-reactive epitope

antibodies or a combination of various epitope antibodies to identify and to quantify pancreas elastase in stool and in serum or plasma quickly and specifically.

On page 5, starting on line 26 through page 6, line 9, please replace the following paragraph with the paragraph listed below:

The invention relates to a procedure for the production of anti-elastase antibodies in the usual way. The distinguishing characteristic is that the specific antigens used have previously been derived from the amino-acid sequence and chemically synthesised by methods of structural analysis. The invention also makes it possible to use parts of these synthetic peptides for the production of antibodies. Although the peptides alone trigger antibody induction, it has proven to be appropriate to connect these peptides to common carrier substances such as haemocyanine. It is possible to produce both monoclonal and polyclonal antibodies from the peptides used in the invention.

Animals such as rabbits, guinea pigs, goats, chickens and fish were immunised with peptides in the usual way in order to produce the polyclonal anti-peptide ~~bodies~~ antibodies in the invention. For the production of monoclonal antibodies, the peptides are used in the familiar way for the induction of specific B-cells, which after fusion with ~~myeloma~~ myeloma cells generate hybridoma ~~hybridome~~ cells, which according to familiar cloning procedures are cultivated in cell lines which secrete specific monoclonal antibodies. The mono- and polyclonal antibodies in the invention react only with the specific epitope used or with mature elastase 1.